

TOWARDS SUSTAINABLE TRANSPORTATION

DISCUSSION PAPER #1

DECEMBER 2007

metrolinx

LINKING PEOPLE TO PLACES • ON Y V A

www.metrolinx.com

A MESSAGE FROM THE CHAIR

December 2007



Getting to work. Dropping the kids off at soccer. Taking in a show. Going from Here to There. You make a lot of trips in a day, often without giving it much thought. But each time you go from Here to There, you are making decisions. Planning your route. Calculating the amount of time it will take. Choosing your mode of travel.

Whether you are driving, using public transit, cycling or walking, you want the trip to be timely, convenient and affordable. Lately, it has been more challenging, as problems such as traffic congestion and uncoordinated transit systems get in the way.

Solving those problems is the objective of MetroLinx (the new name under which the Greater Toronto Transportation Authority conducts business). MetroLinx is committed to improving the way people in this region go from Here to There.

Right now, we are embarking on our own journey from Here to There.

For us, "Here" is the current situation...

The urban area stretching from Hamilton through the City of Toronto east to Durham and north to York is one of the fastest-growing regions in North America. It is also one of the most successful – both economically and culturally. But our transportation infrastructure has not kept pace. The result is severe congestion, and a transportation system that often does not meet people's everyday needs. And it is getting worse, not better, as we prepare for significant population growth in the years ahead.

"There" is where we want to be less than a year from now...

Next fall, MetroLinx will have completed a Regional Transportation Plan (RTP) – a comprehensive blueprint for an effective transportation system across this region. To get there, we will be undertaking an unprecedented consultation process, including releasing six discussion papers (like this one you are reading) and gathering input from a wide range of stakeholders and the public.

We are being realistic about this endeavour. For example, we know we are not going to make congestion go away completely. The truth is, congestion is a common by-product of prosperous, world-class cities. But that does not mean we have to accept the status quo or watch helplessly as congestion gets worse.

The real issue here is that people and businesses have few choices when it comes to moving around this region. These are problems we can address. We can give people options for transport tomorrow that they don't have today.

We can also do a better job of planning and funding infrastructure decisions, to make sure our transportation system is coordinated, seamless and sustainable.

This is a tremendous opportunity, with tremendous benefits:

- We can make this a more liveable region by helping people get around faster and with greater convenience, giving them more time with their families;
- We can position our economy as a strong competitor on the world stage by making sure that businesses get their supplies and their products to market with ease; and
- We can protect and enhance our environment by helping to conserve energy, reduce greenhouse gas emissions and alleviate air pollution.

We can do all of these things, but we need your help. Your ideas. Your commitment.

It has been said that every journey begins with a single step. With the launch of our discussion papers, we are taking that first step.

We hope you will come with us on this journey, as we work to improve all of your journeys from Here to There in the future.



Rob MacIsaac
Chair, Metrolinx
www.metrolinx.com

METROLINX: A NEW APPROACH TO TRANSPORTATION SOLUTIONS

The Greater Toronto Transportation Authority (GTTA) was created by the Government of Ontario to develop and implement transportation plans for the metropolitan region encompassing all of the City of Toronto, the four surrounding regional municipalities (Durham, Halton, Peel and York) and the City of Hamilton.

The agency's legal name is the Greater Toronto Transportation Authority. It has adopted Metrolinx as a name that better reflects its mandate to provide seamless, coordinated transportation links throughout this urban metropolitan region.

Chaired by Rob MacIsaac and staffed by experts in relevant fields, the Metrolinx Board of Directors includes the Chairs of three regional municipalities and Mayors of Toronto, Mississauga and Hamilton.

The Metrolinx Board and staff are committed to a number of guiding principles:

- Serving as an *advocate for customers*, continually focusing on how to improve the system for transportation users;
- Engaging in open, *transparent, two-way dialogue*, always seeking ideas and input from a broad spectrum of people;
- Taking *action*, to demonstrate real progress; *Inclusiveness*, ensuring that all voices are heard; and
- Promoting understanding that transportation involves *choices*, and individuals have a responsibility to make informed decisions.

Metrolinx operates within the legislative framework of the *Greater Toronto Transportation Authority Act, 2006* and the provincial Growth Plan.

METROLINX BOARD OF DIRECTORS

1. Rob MacIsaac, *Chair*

2. Peter Smith, *Vice-Chair*

3. Roger Anderson (*Durham*)

4. Paul Bedford (*Toronto*)

5. Gary Carr (*Halton*)

6. Fred Eisenberger (*Hamilton*)

7. William Fisch (*York*)

8. Adam Giambrone (*Toronto*)

9. Norm Kelly (*Toronto*)

10. Hazel McCallion (*Peel*)

11. David Miller (*Toronto*)



DEVELOPING A REGIONAL TRANSPORTATION PLAN

One of the primary objectives of Metrolinx is the creation of a Regional Transportation Plan (RTP), a strategic, long-term vision for a coordinated transportation system across the entire region. The RTP will also serve as a guideline for infrastructure investment decisions.

This is an opportunity to "get it right"; to develop a coordinated plan that identifies short-term, medium-term and long-term actions for the next 25 years.

The RTP will emphasize balanced initiatives that ensure access by all residents and visitors to a full range of transportation choices across the metropolitan area. At the same time, the plan and communications program will provide valuable information to citizens, system users, transportation providers and other stakeholders at the local level.

KEY THEMES AND ELEMENTS

Three "pillars" will be considered throughout the development of the RTP:

People

The plan will improve the quality of life and health of citizens by providing:

- A more sustainable and integrated transportation system;
- Better mobility for people of all ages and means;
- Greater choice among transportation modes;
- Coordinated information, facilities, operations and pricing within and across the system; and
- Greater comfort, convenience and safety.

The Environment

The RTP will reduce our impact on the physical environment by:

- Striving to limit energy consumption and the emission of pollutants, including greenhouse gases and other harmful impacts of transportation; and
- Operating within the constraints of our ecosystem. Options will be explored to favour energy-efficient, low-emission transportation system elements.

Our Economy

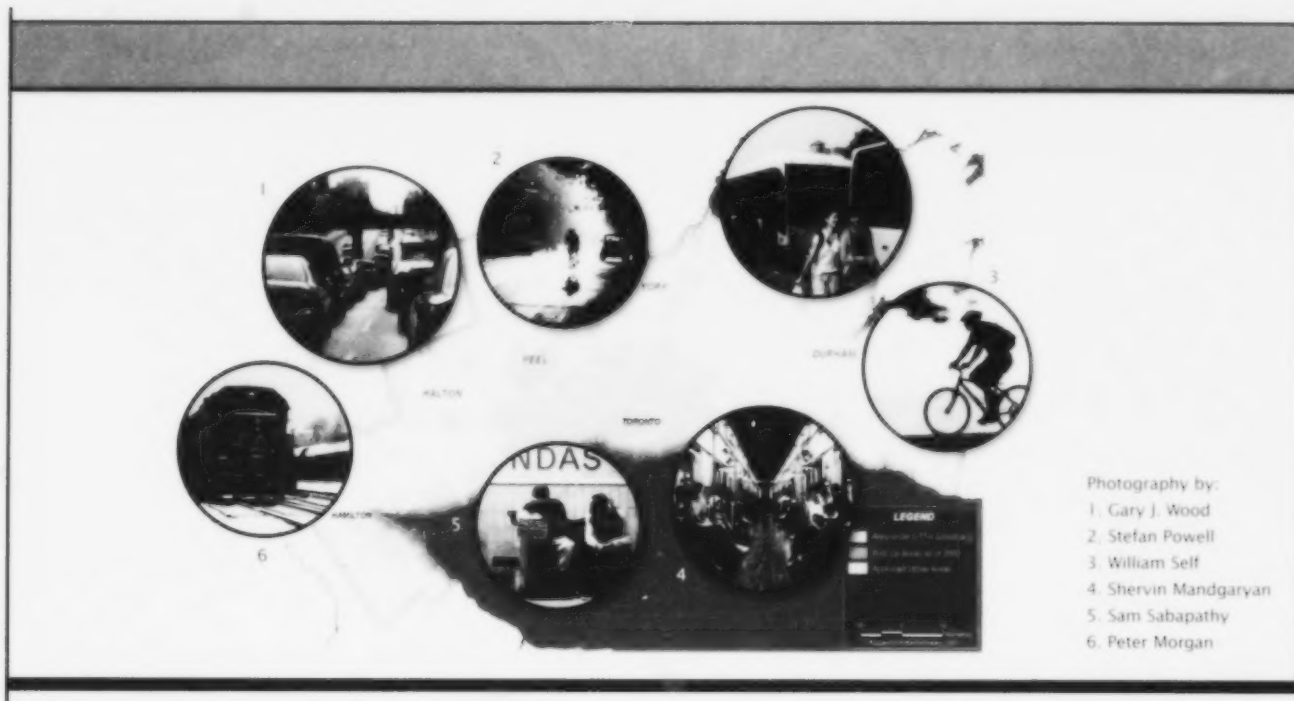
The plan will support a competitive, robust economy throughout the region by designing a transportation system that:

- Takes into account the needs of businesses for the movement of goods and delivery of services;
- Is affordable to both public providers and private users;
- Allocates costs fairly; and
- Reduces health costs and other costs related to accidents.

Key elements of the RTP could include:

■ Transit facilities and services:

- Commuter rail serving all parts of the metropolitan region and linking it to adjacent areas.
- Electrified trains and more subways serving the more densely urbanized parts of the region.
- Light rail transit (LRT) or streetcar trains operating on protected rights-of-way next to roads or in roadway medians, or in rail and hydro rights-of-way, complementing other modes of transport to provide quick and attractive transportation over long distances for trips that often do not end in downtown Toronto.
- Bus rapid transit (BRT) services, including transitways, operating on protected rights-of-way with advanced technology, stations and vehicle features to improve passenger comfort and convenience, again improving the attractiveness of transit in areas in which a GO train, subway or LRT would not be efficient.
- More routes and more frequent buses providing essential local service and connections to main regional transportation services like GO stations or the subway.
- **Development of mobility hubs** or diverse centres of human activity and enterprise centred on transit stations, designed to support all modes of transportation including walking and cycling, and linked to other centres by rapid transit lines.
- **Active transportation infrastructure** and policies to attract and serve pedestrians and cyclists, to and from transit stations or to their destination points.
- **Transportation Demand Management** incentives, Intelligent Transportation Systems, regulations and outreach to encourage travellers to use the transportation system more efficiently.
- **Highway and road enhancements** to fill gaps and increase the efficiency of the movement of people and goods along our existing transportation corridors.



Photography by:
 1. Gary J. Wood
 2. Stefan Powell
 3. William Self
 4. Shervin Mandgaryan
 5. Sam Sabapathy
 6. Peter Morgan

- **High Occupancy Vehicle (HOV) lanes** to enhance transit opportunities and the people-moving capacity of our road system.
- **Moving goods and delivering services more efficiently** through facilities, operations and policies that maximize compatibility with other road users, and that coordinate road, rail, marine and air modes to build on the strengths of each.
- **Real-time information technology** to help transportation providers and users make decisions, which taken together, will make the system work better. On the road, this may mean real-time information about road delays right on the dashboard or cell phone screen, with advice on optimal routing. On the street, this could include information on delays and next vehicle arrival on panels at transit stations and on cell phone screens.
- **Modern payment methods** including smart cards and fare integration for logical seamless transportation.

THE PROCESS

During RTP development, various options – and combinations of options – will be discussed and assessed. They will form the basis of meaningful consultation with the public, stakeholders, advisory groups, and the Metrolinx staff and board.

RTP development will include a series of six consultation papers on key topics. These Green Papers will be followed by White Papers, then by a Draft RTP. All of these documents will be posted on the Metrolinx website and the Environmental Bill of Rights registry for interactive input from the public and stakeholders. Results from web-based consultation and consultation presentations, focus groups and meetings will feed directly into the plan.

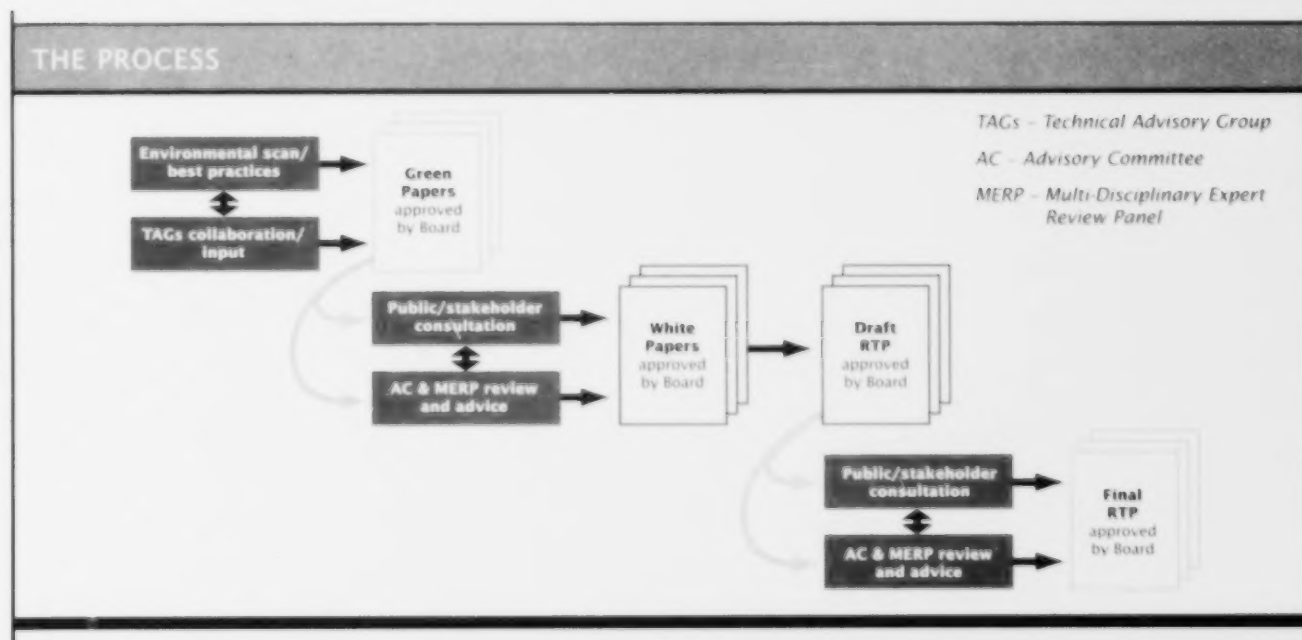
At its July 27, 2007 meeting, the Metrolinx Board directed that the RTP be developed through a series of discussion papers and interactive web-based consultations. Each discussion paper will cover a specific aspect of the plan, develop the supporting planning and analytic rigour, and include the opportunity for stakeholder and public input.

- **Paper #1: Toward Sustainable Transportation:** An overview of transportation trends and challenges.
- **Paper #2: Mobility Hubs:** The use of community mobility hubs and inter-modal gateway hubs as key

building blocks for a seamless, integrated web of local and inter-regional transit systems.

- **Paper #3: Walk/Cycle/Transportation Demand Management:** Active transportation choices, integrated with transit stations and services to promote a healthier, more physically fit population and better-designed communities, as well as the use of Intelligent Transportation Systems (ITS) and transportation demand management (TDM) to promote system efficiency and optimization, and improve customer service.
- **Paper #4: Moving Goods and Delivering Services:** Options to improve goods movement within and across the entire region, and to our major domestic and international markets, and to reduce the conflict between freight and passenger demands on the transportation infrastructure.
- **Paper #5: Highways and Roads:** Opportunities to close gaps in inter-regional highways and road networks, accommodate multimodal uses such as rapid transit. And dedicated freight movements, and reduce deaths and injuries from vehicular accidents.
- **Paper #6: Transit:** New and improved inter-regional and cross-boundary rapid transit corridors across the region, building on the provincial Growth Plan, various municipal plans, and the MoveOntario 2020 vision.

There will be two rounds of public consultation, as the discussion papers evolve from “Green Papers” to “White Papers”, and then into a consolidated draft RTP – which will, in turn, be the subject of extensive public and stakeholder consultations.



Extensive Consultation

We want to hear from as many people, representing as many viewpoints, as possible. This includes:

- The general public, from all walks of life and all demographic groups
- Various levels of government
- Transit oversight organizations
- Transit operators
- Transit unions
- Transit users
- Ontario's labour sector, at all levels
- Industry associations
- Private operators
- Driver advocates, including the Canadian Automobile Association
- The auto industry, including manufacturers and suppliers
- The steel industry and other relevant business sectors
- Cycling organizations
- Pedestrian advocates
- Development industry
- Infrastructure investment community
- Infrastructure building community
- Environmental organizations
- Chambers of Commerce/Boards of Trade
- Service organizations
- Health organizations

- Youth organizations
- Cultural/ethnic organizations
- Tourism organizations
- Social service organizations – social housing, disabilities associations, advocates, etc.
- Media – mainstream, community-based, special-interest, trade and Internet

As noted above, there will be numerous opportunities for input throughout the RTP development process, including after each of the six discussion papers are issued and following the release of the Draft RTP next spring.

WE WANT YOUR INPUT...

To participate in the Regional Transportation Plan consultations, please visit our website at: **www.metrolinx.com**

You can also get in touch with us by fax, e-mail or regular mail:

Metrolinx

20 Bay Street, Suite 901

Toronto, ON M5J 2N8

Fax: (416) 874-5901

E-mail: chair@metrolinx.com

OVERVIEW OF THE CONSULTATION PROCESS

It is our goal to consider as much input as possible from all our stakeholders and consumers throughout our review process. The following process has been put in place to address how each green paper will be reviewed.

Step 1: Collaborate and Scan

Initially, Technical Advisory Groups (TAGs), comprised of municipal and provincial stakeholders will identify our strengths, define our needs, and outline gaps and challenges. Metrolinx will then analyze local, national and international examples of how these gaps and challenges have been overcome, and determine if those examples may be applied to our region. The TAGs will make recommendations before the draft paper is presented to the Metrolinx Board for approval. These recommendations will address investment opportunities, programs and policies aimed at improving the performance of our system, new and/or revised legislation to improve system efficiency, and actions that we can take to implement the RTP. Once approved by the Board, the papers will be released for public and stakeholder input.

Step 2: Consult

The planning process will only be successful with the input of travellers and citizens. Your comments, feedback and suggestions will help us build a system that works for everyone. Important, thought-provoking questions will be asked like "what would it take to get you to drive less?", "what would be the right incentive for you to take transit?" and even "would you pay to reduce traffic congestion and improve air quality?"

We will ask for your feedback and comments on the green papers primarily through Metrolinx's website and the Environment Bill of Rights (EBR) Registry. To ensure that the public has sufficient time to provide input, the consultation period for each paper will be at least 45 days. State-of-the-art consultation software will record your opinions to help shape the RTP. Printed copies will also be made available through local municipal offices.

Step 3: Review and Revise

After each Green Paper consultation period, comments will be consolidated and analyzed. The Advisory Committee (AC), comprised of community leaders who represent diverse groups with interests in the environment, economy and quality of life, will then review this feedback and recommend directions for future consideration. These directions will take the form of White Papers, which will be presented to the Board for approval, and will be posted on Metrolinx's website.

Step 4: Draft RTP Release

Once all of the White Papers have been finalized, a draft RTP will be prepared. The Draft RTP will integrate the findings and directions of each White Paper, and suggest an action plan. Once the Board has approved the draft RTP, it will be presented to the public for final review and comment. As with the Green Papers, the draft RTP will be made available on our website, the EBR, and local municipal offices. A series of town hall meetings will be held in the late spring of 2008 in local communities to solicit input on the draft RTP.

Step 5: The Final RTP Release

Upon completion of website and public consultations on the Draft RTP, a final consolidation and analysis of all comments will be undertaken.

While the planning and consultation process may be finished, the final RTP is but the first step toward building our transportation vision. The RTP will inspire all stakeholders, members of the public, and levels of government to build a transportation system that will enhance our quality of life today and into the future.

Note: Throughout the process, the Multi-Disciplinary Expert Review Panel (MERP) composed of independent, objective experts in the fields of transportation, planning, engineering and finance will formally review the Green Papers, White Papers, Draft RTP and Final RTP for independence, objectivity, accuracy, completeness and implementability.

FOUNDATIONS FOR SUCCESS

IT'S TIME TO GET MOVING

Our current transportation system, once an example to the world, is tired and out-of-date. While other major cities have leapt ahead, we have struggled through years of under-funding, insufficient coordination and short-term thinking.

There can only be one goal: to make this region's transportation system the best it can be, which will again make us a world leader. Thanks to recent provincial funding commitments, and a recognition that the time for action is now, it is possible for us to regain our status as a major metropolitan region that solves the challenges of urban mobility in the 21st century.

But "business-as-usual" won't get us there.

We need creativity and imagination in our transportation system — from conception through construction, operation, marketing and financing.

What's different this time?

Transportation plans have been developed for areas throughout this metropolitan region in recent decades, and a skeptic would be forgiven for asking why this process is different. There are three fundamental reasons for confidence as we move forward.

1. COOPERATION - The Government of Ontario established Metrolinx and made it responsible for the development and implementation of a multi-modal regional plan for the entire city-region. No such body or mandate has previously existed. Experience from

elsewhere shows that an empowered regional authority is essential to successful planning and implementation.

2. COMMITMENT - The province has announced funding of \$11.5 billion (\$17.5 billion with federal participation) through MoveOntario2020 to finance the plan's implementation. This planning process is not an abstract exercise. Real money is available to build a range of transit projects on a tight schedule to meet the 2020 target date. This funding gives a sense of immediate opportunity and enables a clear focus on priorities.

3. NEED - There is a shared sense of urgency for moving forward. There is no disguising the region's transportation crisis or the impact on the environment, health, social and economic life; challenges that loom even larger in the context of rapid population and employment growth. The many consequences of inaction are clear, and there is a broad consensus about the need for aggressive action.

The organization, money and will are in place. This is the time to get moving.

Ideas to Consider

As we work toward a Regional Transportation Plan, no idea will be considered too "off-the-wall." The bottom line is, any idea is welcome if it makes the transportation system better for people and businesses, if it is financially viable, and if it can be sustained over time.

As a starting point, however, history has shown us a number of characteristics that apply to the best transportation planning, and these are the foundations from which the RTP will be built. When thinking about your own ideas for transportation improvements, consider the following:

INNOVATIVE THINKING



Real-time tolling — San Diego, California

Launched in 1998, the FasTrak program on Interstate 15 in San Diego lets solo drivers pay a fee to use carpool lanes. The real-time tolling system uses value pricing, adjusting the price of a trip depending on actual HOV lane volumes. This HOV/toll (HOT) lane approach reduces rush hour demand on the road network, encourages carpooling, and provides revenue to improve transit service in San Diego. FasTrak serves an average of 15,600 vehicles each weekday — including 11,600 carpools — and has raised \$7 million to fund express bus services in the corridor.

Comprehensive Planning

The best plans need to be far-reaching and address all forms of transportation, from walking to high-speed intra-city rail. They insist on planning and delivery at the regional level. They promote integrated, seamless service among regional transit systems. And they are consumer-driven, recognizing that commuters need choices.

Consumer Focus

One of the most significant revolutions in global transit delivery has been its transformation from a lowest-cost "public good" into a high-quality consumer service. While transit is the mode of necessity for some, it is a choice for those with other options. Building the market among this group is vital for transit to succeed, particularly in suburban areas. The elements of an attractive consumer package include a safe, secure and comfortable ride, real-time information, weather protection, passenger amenities and conveniences, as well as long-standing demands around service frequency and affordability.

Technology

Technology has opened a new world of possibilities for transportation. Many cities are experimenting with various technological advancements. Transit smart cards and real-time information systems are providing real benefits to riders and transit systems. From Helsinki's on-line real-time bus tracking to London's congestion charging scheme and Bogotá's expansive Bus Rapid Transit network, cities around the world are recognizing the potential for technology to make transportation alternatives more attractive, improve performance, reduce environmental impacts, and strengthen affordability.

A Mix of Public and Private Sector Involvement

New ways of delivering transportation infrastructure must be considered. Due to a shortage of public funds for major public transit expansion, many publicly operated transportation systems have started to involve some aspect of private sector participation, such as the public sector managing a competitive process. Many of the best systems around the world adopt a blended public-private approach, with a clear focus on high-level regional governance, cost containment and certainty.



Photographer: James Chou

High-speed intra-city rail

High-speed rail service within a region is a mainstay of successful transportation networks. Linking major centres across the region, systems like the RER in Paris and MTA express trains in New York City offer fast, convenient rail service outside the urban core. Regional transit is increasingly recognized as priority to increase economic productivity. For example, London's £16 billion, 118-kilometre east-west Crossrail line is expected to bring £20 billion to the UK's economy. It will be substantially or entirely developed with private funds, and will dramatically shorten real distances across the metropolis.

Great Design

Transit innovation should encompass a rider's entire experience, building a positive brand and contributing to city building. The streetcars, imaginative route treatments and simple, robust station designs of Light Rapid Transit systems in the French cities of Nantes, Lyon and Bordeaux provide inspiring examples. These modern, accessible, quiet and comfortable systems offer riders an enviable level of service.

Innovation

We have an opportunity to take what we have learned from innovations around the world and apply it right here. A survey of international best practices will offer encouragement and evidence that innovation, risk-taking and creativity can pay great rewards.

INNOVATIVE THINKING



UK Transport Innovation Fund

The Transport Innovation Fund is a competitive process through which British cities secure transport funding. With £290 million available in 2008-2009, growing to more than £2 billion by 2014-2015, the fund supports projects that reduce congestion and increase economic productivity. Through its selection criteria, the fund requires a regional approach to transport planning, places significant weight on encouraging walking and cycling, requires some form of road pricing, and looks for public-private partnerships as the assumed delivery mechanism.

MEASURING SUCCESS

We will develop a "mobility index" to monitor the plan's implementation and our success in achieving social, environmental and economic goals.

The index will establish indicators and reporting methods to compare system performance to the plan's targets. Several performance criteria will be considered:

- Reduced travel times;
- More efficient use of the transportation system to reduce costs and conserve resources;
- More transportation choices to offer a broader range of competitive options in most parts of the region;
- Greater convenience in moving people and goods;
- Improved safety as measured by a reduction in the rates of collisions, injury and death;

- Cleaner air with fewer smog days and reduced greenhouse gas emissions; and
- A cost-effective transportation system that offers more "bang for the buck" to travellers and transporters of goods and services, enabling greater prosperity for the region and its families.

Building on the proposed success factors and monitoring progress, Metrolinx will strive to produce a transportation improvement program that benefits the people, environment and economy of this great region, for decades to come.

Your Involvement

The challenge of creating a modern transportation system for this area is not insurmountable. Other city-regions have met similar challenges, and offer lessons about best practices and potential pitfalls. We have a unique opportunity to reshape our transportation system, and take advantage of the best ideas in technology, design and management.

We face difficult choices among routes, technologies, management approaches, financial strategies, competing priorities and levels of risk. We also face substantial changes in how we get around the metropolitan region, how we control the relationship between land use and transportation, how we manage transit delivery and operation, and how we build an appetite and enthusiasm for innovation, creativity and risk.

To guide these choices and changes, Metrolinx is seeking advice from those who are involved in our transportation systems — commuters, transit riders and other travellers, businesses, transportation providers, parents and youth, seniors and all interested local residents.

We will work with those who manage or operate key elements of the system, and with the elected officials to whom they report. Our goal is clear — to build the best transportation system possible for all who live and work in our city-region.

TRENDS AND OUTLOOKS

Context: Past, Present And Future

The capacity of this region's transportation system has not kept pace with growth in demand, and the strain is evident. Subway, streetcar, bus and commuter rail services are being pushed to and beyond their capacities, with resulting crowding and poor reliability. Travel times on the road network are increasing during peak periods, with collisions and weather incidents resulting in large additional delays.

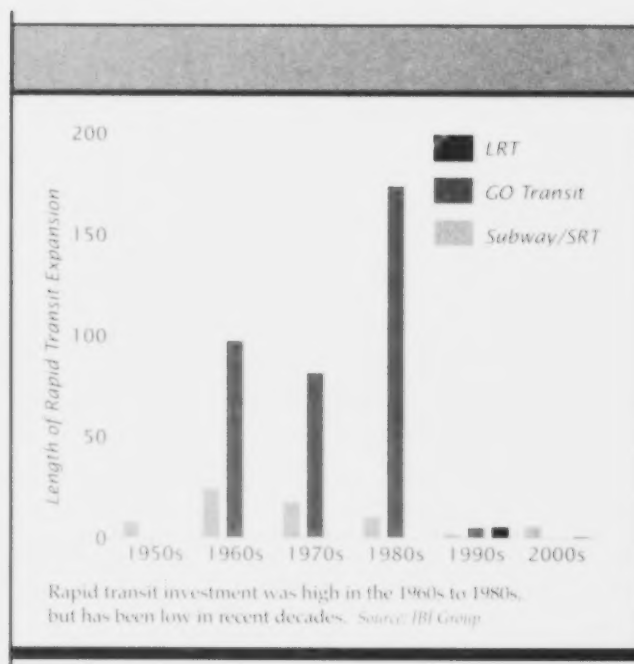
Over the last two decades many new and widened roads have been built in suburban development areas, adding more than 50 per cent to the region's arterial road supply and another 40 per cent to the highway system. The road network in urbanized areas is now largely built out, and there are very limited opportunities to add capacity.

Once roads become congested, rapid transit is a key response — an area in which this region has seen limited activity over the past 20 years, with the only significant improvement being a five-kilometre section of the Sheppard Subway. This compares to rapid transit and commuter rail construction that averaged 135 kilometres in each decade from the 1960s to the 1980s.

ANNUAL RIDERSHIP OF TRANSIT OPERATORS

Toronto	444,544,000
GO Transit	48,292,000
Mississauga	29,022,000
Hamilton	21,165,000
York Region	17,108,000
Brampton	10,139,000
Durham Region	6,942,000
Oakville	2,415,000
Burlington	1,673,000
Milton	86,000
Total	581,386,000

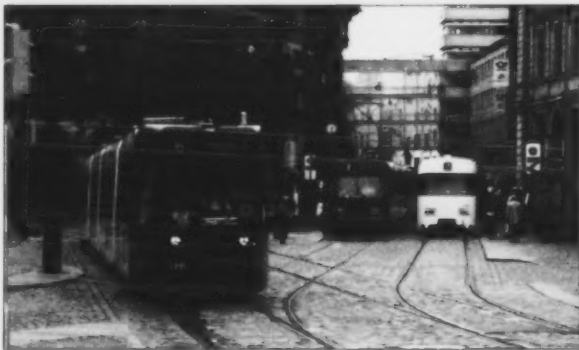
Source: 2006 CUTA Statistics



Toronto's rapid transit network is now merely average compared with other major metropolitan areas. Most large American cities have been investing heavily in rapid transit. In Europe, the city of Madrid, slightly smaller than our city-region, has built more rapid transit facilities during the past 10 years (88 km) than all of our subway and light rail lines (77 km) combined. In England, London's continuously expanding system has 466 kilometres of rapid transit lines — roughly six times that of Toronto — which is notable because our region in 2031 will be approximately the size that metropolitan London is now.

Ten different transit systems operate in the region: four regional or municipal operators serving Toronto, Durham, York and Hamilton; five local agencies serving local municipalities in Peel and Halton; and GO Transit providing interregional service throughout the area. Transit use is not well-balanced among these systems. About 80 per cent of passengers are carried by the Toronto Transit Commission (TTC), 10 per cent are carried by GO Transit, and 10 per cent by the remaining eight systems. The TTC and GO Transit recover the highest ratio of operating costs through the fare box, with smaller systems requiring significantly higher levels of subsidy per passenger. This represents a financial challenge: the

INNOVATIVE THINKING



Bremen, Germany

Bremen is a commercial city in north Germany. Population of the city is approximately 600,000 although the metropolitan area population is more than 2.37 million. Bremen depends upon public transport for a high proportion of daily journeys, particularly on the ubiquitous streetcar system. The streetcars penetrate all areas of the central city with a major plaza at the railway station. Streetcars also directly serve the terminal building at the airport. The streetcars are supplemented by a system of buses and by regional railways. A comprehensive integrated tariff union has been developed so that the same tickets are used on all modes of transport.

smaller systems are home to about 60 per cent of the region's current residents, and will be home to most new residents in the future.

Population Growth

With just over six million residents, this region is home to about half of the people in Ontario, and about one fifth of all Canadians. It is the fourth-largest metropolitan area and one of the fastest growing regions in North America. With 100,000 new residents added each year, our population will be 8.6 million people by 2031; larger than metropolitan Chicago or London, England are today.

Over the next 25 years, this region is projected to grow by 2.5 million people. This is greater than the current

population of Vancouver and twice the current population of Ottawa Gatineau. Most of this growth will occur in the regional municipalities outside of the City of Toronto.

This region's economy has been fuelled by excellent access to domestic and American markets, an educated and productive workforce, and immigration from other parts of Canada and the world. On average, new workers locating here have been well-educated, young, more mobile, and more likely to be single or parents of young children. However, unlike previous generations of newcomers, they have tended to settle in the suburbs. Even young adults, who first move into more urban neighbourhoods, typically move to the suburbs in their next stage in life.

About 80 per cent of the region's population growth over the last two decades has been in the suburban regional municipalities of Durham, York, Peel and Halton. The other 20 per cent has been concentrated in Toronto's downtown, and suburbs of Toronto and Hamilton.

Unlike many American cities, this region's downtown areas remain desirable places in which to live, with convenient access to cultural, retail and recreational activities. However, it is the suburban lifestyle that has characterized modern settlement patterns, with single-family homes in neighbourhoods isolated from traffic, and with strip malls and regional shopping centres. This form of development is reliant on private automobile ownership and a well-developed road system. Most daily trips exceed easy walking distance, and convenient transit service is difficult to provide because of low population densities and widely separated destinations.

Total employment in the region was 3.1 million jobs in 2006. Since 1986, about 75 per cent of job growth has occurred outside of the City of Toronto, although downtown Toronto remains the dominant single employment area, with over 400,000 jobs. Other major employment centres have grown around Toronto Pearson International Airport (140,000 jobs) and in the centres of Scarborough (22,000 jobs), North York (40,000 jobs) and Mississauga (20,000 jobs). Suburban workplaces may be closer to many employees' homes, but tend to be further from rapid transit service and highly car-dependent.

HOUSEHOLDS ARE CHANGING

In addition to changes in the distribution of population and employment, the makeup and transportation behaviour of the typical household in our region has also dramatically transformed. Compared to 45 years ago, today's typical household is smaller, more affluent, owns more vehicles, makes more trips each day, and uses public transit for a smaller share of those trips.

A Typical Household in the 1960s

- 1 working parent
- 3 kids
- 1 car
- 20% of trips by public transit



A Typical Suburban Household in 2007

- 2 working parents
- 2 kids
- 2 cars
- 10% of trips by public transit



Source: 1964 Metropolitan Toronto and Region Transportation Study (MTARTS), 2006 Transportation Tomorrow Survey

Photographer: Ashley

Photographer: Nicholas Wang

Travel Behaviour

Residents throughout the region travel more than they used to. Even though household size has decreased, each household made 5.20 daily trips in 2006 compared to 5.13 in 1986. Residents also rely more on their cars, with automobile trips growing three times faster than transit trips. The proportion of commuter travel made by transit, walking or cycling dropped from 31 per cent to 24 per cent in two decades. As a result, the number of vehicle-kilometres driven almost doubled.

Dense communities in central locations, usually built before 1950, have more sustainable transportation patterns. Residents make shorter trips and travel more frequently by transit, walking and cycling. Neighbourhoods like those of downtown Toronto have many nearby destinations, pedestrian-friendly streets and convenient rapid transit services that are not slowed by traffic congestion. As a result, a third of downtown trips are made by public transit, a third by walking or cycling, and a third by car. In peak periods, over 70 per cent of trips to downtown are made by transit.

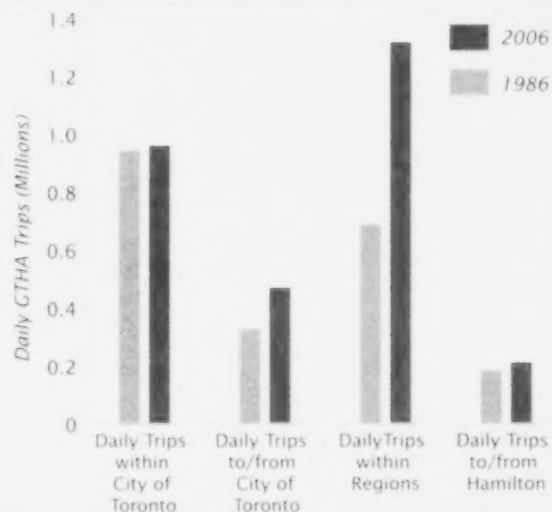
Older suburban communities with automobile-focused development patterns, such as those built in the 1950s through 1970s, can still support more environmentally friendly travel patterns. For example, residents of Toronto's Don Mills neighbourhood make 34 per cent of their trips by transit, walking or cycling. High-frequency bus service reduces waiting times and provides good access to the subway.

The story is dramatically different outside of the City of Toronto, where transit, walking and cycling account for less than seven per cent of all trips. The way these suburban neighbourhoods are designed – with an emphasis on single-family homes, larger lots, and buildings oriented toward car travel – makes it difficult for transit service to be efficient or attractive (although long-distance GO Transit services are an important exception). For the average worker in Markham, commuting by transit would take more than twice as long as driving. As a result, fewer than two per cent of residents there take transit.

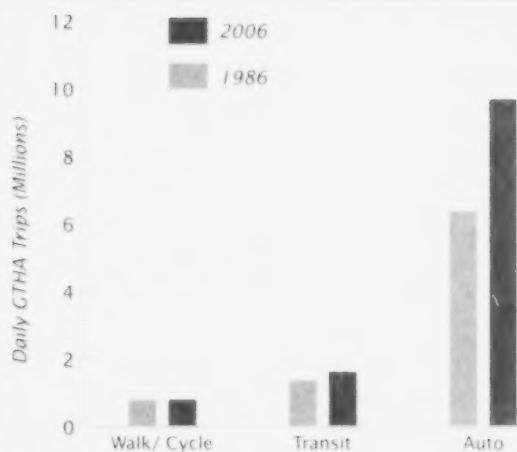
At the same time, we have designed walking and cycling out of our urban spaces by placing homes, jobs and shops too far from one another, erecting barriers between residential areas and major destinations, and making roads uncomfortable or dangerous to use — or even to cross — for pedestrians and cyclists.

Our challenge is to shape travel behaviours by improving transportation choices and coordinating development to work with our transportation system. Just as travel behaviours have changed in the past, we can change them in the future. Past trends do not dictate policy. We must choose the future we want.

TRAVEL PATTERNS, 1986-2006

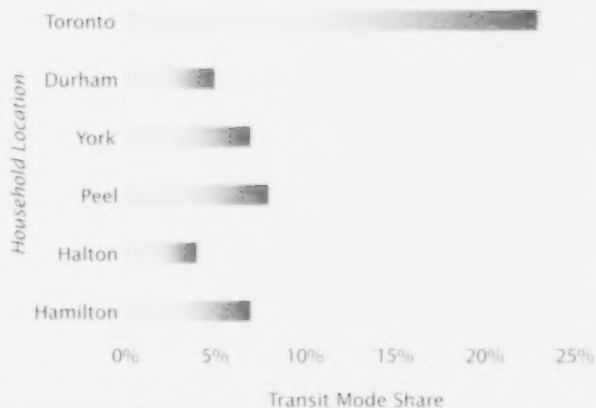


TRAVEL MODE



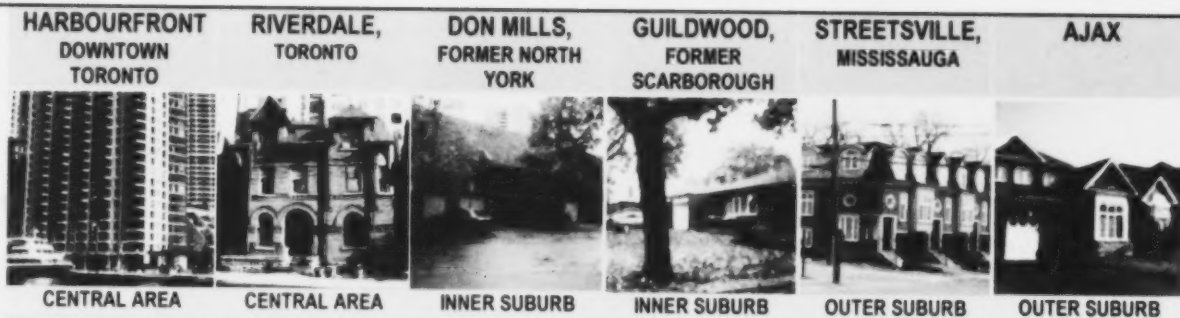
Source: Transportation Tomorrow Survey

HOUSEHOLD LOCATION

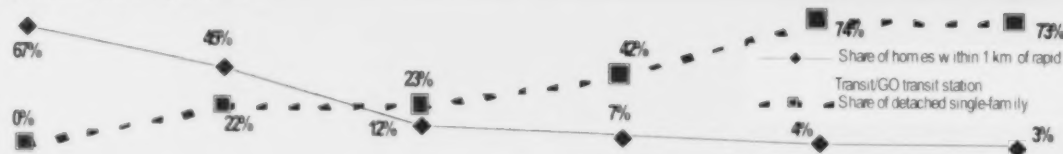


DO OUR COMMUNITIES PROMOTE SUSTAINABLE TRANSPORTATION?

Transportation options and behaviour are strongly influenced by urban form. Urban form includes both macro-level (where the people, jobs and activities are across the region) and micro-level (mix of uses, density, street layout) considerations. The six communities on the following page illustrate that transportation behaviour (e.g. share of residents commuting by transit), transportation expenses, and greenhouse gas emissions from transportation are strongly influenced by location and other community characteristics (e.g. mix of housing, proximity to jobs and rapid transit, etc.)



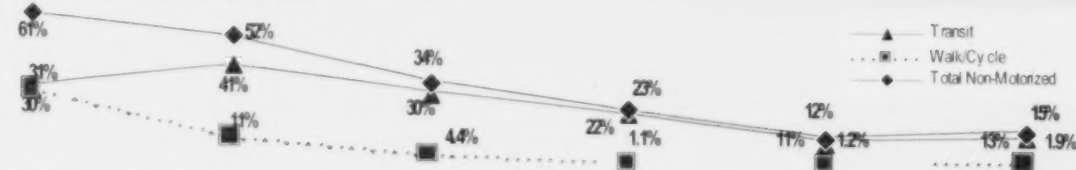
Dwelling type and proximity to transit:



Proximity to activities:



Share of non-motorized travel for trips to work:



Average vehicles per household:



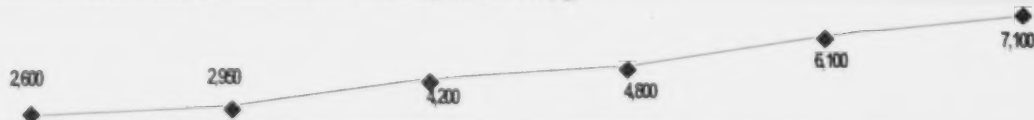
Average commute distance (km):



Average annual household transportation costs:



Estimated annual greenhouse gas emissions from weekday vehicle use (kg):



Threats to Our Quality of Life

Changes in travel behaviour, combined with the difficulty and expense of widening roads in most urban communities, have led to greater traffic congestion across the region. Some areas are experiencing near-gridlock conditions that strain the very underpinnings of their quality of life.

To accommodate great increases in population, employment and travel demand, we must change how people and goods move within and across the region. The alternative is to face the costs of mounting congestion: lost productivity and family time, delays to goods and services, and heightened stress and anxiety for individuals.

Congestion in the region has an estimated economic cost of as much as \$2.2 billion annually. The future could hold even greater economic consequences, particularly for the manufacturing sector, which depends on reliable goods movement and is already experiencing severe cost adjustment pressures.

The social and personal costs of transportation changes are harder to quantify, but no less significant. While suburban areas typically have more affordable housing, home cost savings are offset and frequently exceeded by the increased transportation costs of suburban living and auto ownership. Because of the design of most suburban neighbourhoods, walking and cycling are less attractive, with recent studies citing a sprawl-induced lack of exercise as a contributing factor to a variety of illnesses.

The dependency on cars is having other, lesser-known consequences: seniors losing their independence when they can no longer drive; children depending on adults to get places; the disabled facing limitations on mobility in their daily lives; workers who cannot access jobs because of the need to own a car; new Canadians whose integration into Canadian society is delayed because of mobility challenges. Just as mobility is crucial to social integration and economic opportunity, a lack of choice can be devastating to individuals.

Transportation's air pollution impacts are also substantial. In the City of Toronto alone, the Toronto Board of Health

recently estimated that air pollution (largely generated by automobiles) contributed to 440 premature deaths and 1,700 hospitalizations, with costs of \$2.2 billion annually.

Climate Change and Energy Risks

Transportation plans must also address unpredictable challenges related to the global environment.

It seems likely that national and international efforts to reduce fossil fuel use will eventually require (whether by incentives, disincentives or persuasion) the adoption of more energy-efficient transportation patterns across our region. Significant emission reductions would require major changes in transportation behaviour, unless revolutionary technologies are developed.

A number of questions arise that will need to be addressed as Metrolinx develops the Regional Transportation Plan. For example:

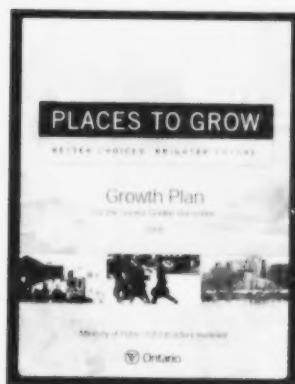
- What is the best way to prepare for such long-term changes and their uncertain effects on transportation demand?
- Which investments will help us deal with change — freeways that carry 7,200 vehicles per hour or rapid transit lines that carry 50,000 people per hour?
- Should we assume that in 30 years there will still be trucks on the road bringing strawberries from California and transporting garbage outside of the region?

Ideally, decisions on transportation projects should take into account the total costs, energy consumption and emissions of those projects over their entire lifecycle.

If we can give residents greater choice among energy-efficient and environmentally friendly travel options, we can make the transportation system more effective in the face of climate and energy risks while also moving closer to other social, economic and environmental goals.

Planning for Growth

On June 16, 2006 the Province of Ontario released *Places to Grow – A Growth Plan for the Greater Golden Horseshoe*. The Growth Plan is a first for Ontario and sets



forth a 25-year vision to plan for and accommodate the expected growth in the Greater Golden Horseshoe.

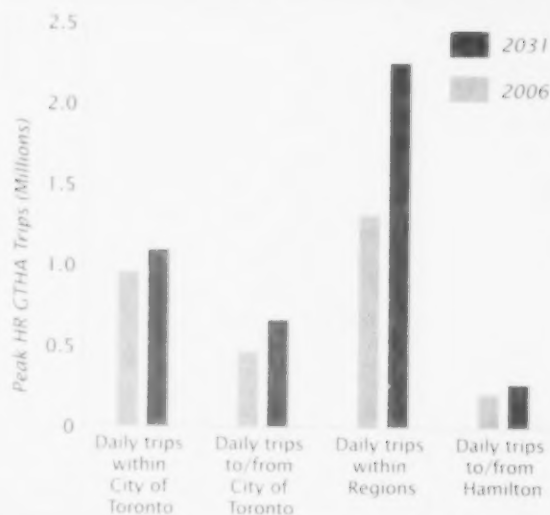
This region is already one of the fastest growing urban regions in all of North America. By 2031, an additional 3.7 million people and 1.8 million new jobs are expected. This growth is a

positive sign for the region, it will mean a more prosperous economy, a higher standard of living and more vibrant communities. The region continues to be a magnet for skilled workers from throughout the world, attracting new investments and providing new opportunities. In order to ensure that the region continues to be successful and prosperous, however, it is critical that we plan for this growth and make the right investments to reduce urban sprawl, gridlock, air pollution and pressure on important natural areas.

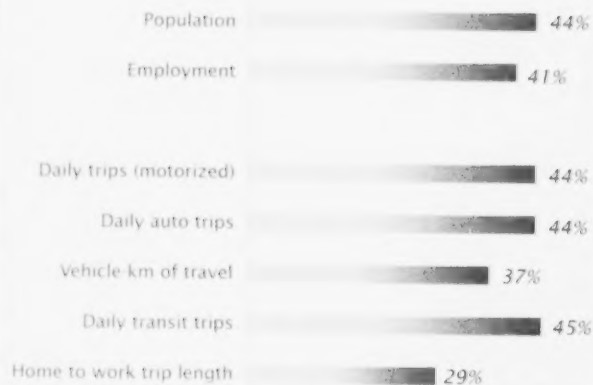
To meet these goals, the Growth Plan supports the revitalization of downtowns and existing urban areas. It identifies 25 urban growth centres in the Greater Golden Horseshoe that will serve as nodes for regional transit, business, culture and community services. The Growth Plan also sets minimum density targets for these areas in order to ensure high levels of transit usage and support the environmental and financial viability of transit systems.

The Province's 25-year vision for the region requires an integrated and sustainable transportation system, a system that moves people and goods efficiently throughout this region, and beyond. The work of Metrolinx will help the ambitious and coordinated transportation plan to attain these goals and guide needed future infrastructure investments.

TRAVEL PATTERNS, 2006-2031



TRAVEL PROJECTIONS, 2006-2031



Source: IBI Group

Future Demand

By combining the Growth Plan's population and employment projections with our understanding of current travel behaviour and a list of only those road and transit projects for which funds have been committed, we have developed a forecast of future transportation conditions in the region.

This projection is a "business-as-usual" scenario that assumes current trends and policy directions will continue over the next 25 years.

Under these conditions, we estimate a dramatic 44 per cent growth in the number of trips by 2031, to match the 44 per cent population growth in the forecast. While transit's share of morning peak period trips in the region would remain relatively constant at 14 per cent, the number of transit trips in the suburban municipalities would grow by a factor of four. Significant investment in transit capacity would be needed, merely to keep pace with demand.

Traffic congestion would grow faster and more roads would reach capacity. The length of an average trip in the morning peak period would grow by almost 50 per cent, from 17 minutes today to 25 minutes in 2031. The extra

delay would lead to greater operating costs and emissions, and reduced reliability and productivity. The cost of moving goods and delivering services in the region would increase, affecting economic competitiveness. Health impacts would also occur through increased pollution and less active lifestyles.

Institutional Roadblocks

Several institutional challenges have affected our ability to plan and deliver better transportation systems. We must address them.

First, we have lacked sustainable and predictable funding. Provincial and municipal budget pressures and the lack of a sustained federal role have led to minimal expansion of infrastructure and services. We have allowed urban areas to grow ahead of the necessary transportation infrastructure. Roads and especially transit routes have not kept up with growth. A backlog of facility maintenance and rehabilitation has been allowed to build up.

Second, transportation responsibilities in the region have been fragmented. There has been no central body to plan and deliver a comprehensive, coordinated, multi-modal transportation system. We had no single authority

INNOVATIVE THINKING



Vélib bicycle sharing program — Paris, France

Vélib is a bike sharing program in Paris with an initial fleet of 10,600 bikes distributed among 1,500 "stations". It was launched in the summer of 2007, installed and paid for by an outdoor advertising company in exchange for the use of billboards around the city. Vélib was the idea of Mayor Bertrand Delanoë — a long time advocate of reducing in-city car traffic. Users can buy a one-day card for 1 euro, a weekly card for 5 euro or an annual subscription to the service for 29 euros. The program has been successful, with 13,000 annual subscriptions sold before the program had begun. Transit users can also use their fare cards to rent bicycles.

responsible for the emerging metropolitan region's transportation needs and issues.

We needed a public authority with the mandate to take us beyond the inherent limits of what could be achieved by goodwill and operational co-operation. We needed an authority that looked at the overall picture, unconstrained by local financial and political concerns or by narrow operational and planning mandates. We needed an authority that could put forward the interests of the regional traveller, who must cross municipal boundaries to get to school, to work or to medical care, or to make deliveries or service calls.

Third, the implementation of previous plans has been halting, at best.

Transportation infrastructure lasts for decades, and success requires a long-term approach. Many transportation plans and long-term implementation

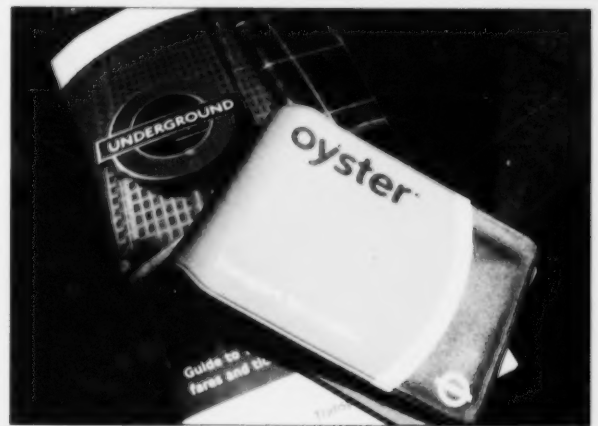
programs have been developed for parts of the region over recent decades, but in most cases their implementation has not proceeded beyond the first few years. Budget cut-backs, changes in government and increased competition among priorities have frequently led to the deferral of needed transportation projects.

AREAS OF SEVERE TRAFFIC CONGESTION

2031 RUSH HOUR



INNOVATIVE THINKING



Photographer: Max Warren

The Oyster Card — London, England

The Oyster Card was introduced by Transport for London in 2003. The smart card style transit pass is now used for 75 per cent of the Underground, bus and some rail trips in the London area, adding up to 38 million journeys a week. The card is characterized by its convenience and cost savings. Fast access into and out of stations is provided by touching it to a reader at the ticket gate. Daily price capping ensures that users pay the lowest fare based on their trips throughout the day. The Oyster Card has been franchised to become a credit/debit card, a library/municipal charge card and a discount access card for restaurants, events and attractions.

CHANGING THE FUTURE: SHAPING A STRATEGIC RESPONSE

Moving Forward

The development of a Regional Transportation Plan marks the beginning of a long journey toward a vastly improved, sustainable transportation system.

This journey will require everyone's participation.

Governments will continue to make significant investments and adopt strategic legislation to better plan communities and promote improved connections between transportation systems. Transportation providers will shift their emphasis to their customers, regardless of socio-economic status, age or disability. Residents of the region, businesses and all members of society will be engaged in a meaningful, sophisticated and progressive debate on the best way

forward, keeping in mind that nothing short of visionary, bold and comprehensive changes to our transportation systems and behaviours will be necessary.

Together, we will build a blueprint for a fairer, more seamless, cost-effective and environmentally friendly transportation system. We will create communities that facilitate walking, cycling and transit in a way previously not imagined.

We have little choice but to change. Our ability to increase the capacity of major highways and arterial roads is limited by space and cost, and anticipated population growth will increase competition for road space. Our blueprint for changing the way we plan our cities, towns, villages and rural areas is recommended by the Growth Plan. We will place new housing and employment where transit can serve them effectively and mix them to reduce traveling distances. These changes will also shape a region that supports walking, cycling and transit.

At the same time, we will coordinate an unprecedented reinvestment in public transit so that getting around becomes easier, the number and frequency of routes improves and service becomes more comfortable and reliable. We will ensure that all travellers and transit employees trust the safety and security of the transit system. We will help children walk to school again, with clear health advantages, cleaner air, reduced congestion, and lower costs for school boards and parents.

With everyone's commitment to the ultimate goal of a sustainable transportation system and communities, this will remain one of the world's most attractive and successful city-regions.

INNOVATIVE THINKING



Madrid, Spain

Madrid has extended its metro system considerably over the last decade. Between 1999 and 2003, 55 kilometres of new lines and 36 new stations were constructed. In the current planning period, from 2003 to 2007, 84 kilometres of new line and 81 new stations are being added. This is a tremendous achievement. Additions in the current five-year period are greater than the entire Toronto subway system. This rapid expansion was made possible by a reorganization of the transit system in Madrid, the availability of European Union funds and a rapid construction program.

Photographer: César Astudillo

INNOVATIVE THINKING



High-occupancy vehicle lanes — Washington, DC

In 1969, Washington, DC was home to the first high-occupancy vehicle (HOV) lanes in the United States. The HOV network is now 185 kilometres long, and is open to buses and to carpools carrying a minimum of either two or three persons, depending on the road. The HOV lanes reduce traffic volumes and speed up bus service. They carry more persons per lane per hour than non-HOV lanes, and offer drivers substantial time savings.

In 2005, the GTA saw its first Highway HOV lanes on Hwys. 403 and 404. Plans are in place to extend HOV lanes to portions of all GTA highways.

WE WANT YOUR INPUT...

To participate in the Regional Transportation Plan consultations, please visit our website at: www.metrolinx.com

You can also get in touch with us by fax, e-mail or regular mail:

Metrolinx

20 Bay Street, Suite 901

Toronto, ON M5J 2N8

Fax: (416) 874-5901

E-mail: chair@metrolinx.com



metrolinx

LINKING PEOPLE TO PLACES • ON Y VA

Metrolinx is an agency of the Government of Ontario.

100% PCW 